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Research Note

Prevalence of *Acetodextra amiuri* (Trematoda: Cryptogonimidae) in Channel Catfish, *Ictalurus punctatus,* from Kentucky Lake, Kentucky–Tennessee

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ABSTRACT: One hundred seventy-three channel catfish, *Ictalurus punctatus,* were collected in Kentucky Lake by monthly gill netting from April through October 1988, and examined for the presence of the digenean *Acetodextra amiuri.* Only the ovaries of mature females were infected. Mature females constituted 46.8% (81/173) of the sample and 18.5% (15/81) were infected. The highest prevalences were observed during June and July (70% and 50%, respectively).

KEY WORDS: channel catfish, *Acetodextra amiuri, Ictalurus punctatus,* prevalence, Kentucky Lake, Digenea.

The prevalence of *Acetodextra amiuri* (Stafford) in channel catfish, *Ictalurus punctatus* (Rafinesque), was studied in Kentucky Lake, an impoundment of the Tennessee River. One hundred seventy-three channel catfish (>300 mm) were collected with gill nets from April through October 1988. Based upon its large size (64,800 hectares), the lake was divided into 3 sampling areas extending from Kentucky Dam in Kentucky (Tennessee River Mile 22) south to Pickwick Dam (TRM 207) in Tennessee. Area 1 (TRM 22–66) was characterized as lacustrine; area 2 (TRM 66–116) was transitional between areas 1 and 3; area 3 (TRM 116–207) was narrow and riverine, included the Pickwick Dam tailwaters, and was nearly as long as areas 1 and 2 combined. Voucher specimens were deposited in the USNM Helminthological Collection, USDA, Beltsville, Maryland 20705, as *Acetodextra amiuri* (No. 81240).

Acetodextra amiuri was observed only in the ovaries of adult channel catfish. *Acetodextra amiuri* was not observed in air bladders of either males or females as observed by Perkins (1956). Eighty-one (46.8%) of the fish collected were mature females and 15 of these (18.5%) were infected. Females infected with *A. amiuri* had a mean total length of 498 mm (range 386–601 mm), a mean weight of 1,512 g (range 687–2,471 g), and a mean ovary weight of 79 g (range 2–206 g). Females without *A. amiuri* had a mean total length of 460 mm (range 300–611 mm), a mean weight of 1,163 g (range 341–2,821 g), and a mean ovary weight of 23 g (2–237 g). There were no significant differences between fish with and without *A. amiuri* for lengths, weights, or ovary weights ($P < 0.05$). *Acetodextra amiuri* was found in ovaries before and after spawning. Channel catfish spawn in June and July (Marzolf,

1957). The highest prevalences in hosts were 70% in June (area 3) and 50% in July (area 2). Lower prevalences, ranging from 0% to 33%, were observed in individual areas in other collection months. The prevalences of *A. amiuri* and sample sizes of females in each area from April through October were: 31.0% for area 3 (33 fish), 21.1% for area 2 (19 fish), and 3.4% for area 1 (29 fish). The number of channel catfish infected with *A. amiuri* was lower in the lacustrine than the riverine area of Kentucky Lake. Monthly prevalences for the 3 areas combined were: 0 for April and May (15 fish), 41.1% for June (17 fish), 37.5% for July (8 fish), 8.7% for August (23 fish), 11.1% for September (9 fish), and 11.1% for October (9 fish).

Several hundred *A. amiuri* were observed per ovary. Although intensity was not measured for all fish, over 500 adult *A. amiuri* were observed in 1 ovary that was preserved. This observation is consistent with the findings of Warner and Hubert (1975) and Perkins (1956) who sometimes found more than 1,000 adult *A. amiuri* in a single ovary. Edwards et al. (1977) reported a low prevalence (1.0%) in channel catfish from the Kentucky River with few *A. amiuri* per host. They did not separate mature females from the total number of females and males.

Acetodextra amiuri parasitizes many ictalurids (Perkins, 1956; Hoffman, 1967; Aliff, 1977) including: channel catfish; yellow bullhead, *Ictalurus natalus*; black bullhead, *Ictalurus melas*; brown bullhead, *Ictalurus nebulosus*; stone cat, *Noturus flavus*; and tadpole madtom, *Noturus gyrinus*. *Acetodextra amiuri* has not been reported from blue catfish, *Ictalurus furcatus* (Hoffman, 1967). During the present study, 190 mature female blue catfish were also examined. *Acetodextra amiuri* was not observed in any blue catfish examined. Why *A. amiuri* does not parasitize blue catfish is enigmatic.

The pathogenicity of *A. amiuri* on channel catfish is unknown, but Perkins (1956) and Hoffman (1979) indicated it has the potential for reducing channel catfish reproduction by damaging ovarian tissue and eggs.

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